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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,755	03/15/2004	Abdus Suttar Khan	033275-426	2055
21839 7590 02/20/2007 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER IVEY, ELIZABETH D	
			ART UNIT 1775	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/799,755

Applicant(s)

KHAN ET AL.

Examiner

Elizabeth Ivey

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: The specification contains several minor grammatical errors throughout and should be reviewed. Some examples include line 14 on page 3 of the specification wherein the word "deposition" should be "depositing"; line 22 on page 3 wherein "translate" should be "translates" and "a" should be located between "of" and "chromium".

Appropriate correction is required.

Claim Objections

Claims 9 and 14 are objected to because of the following informalities: Claims 9 and 14 indicate thicknesses in mm whereas the specification units are in μm . Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 6-7 and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. 3,743,556 to Breton et al.

Regarding claims 6, 7 and 11-13, Breton discloses a wear or corrosion resistant coating, (which can be used as a seal system coating between gas turbine components) for a substrate such as a turbine blade and discloses such a coating used in sealing systems (column 1 lines 42-45 and column 2 lines 15-17 and column 6 lines 42-43). Breton discloses an example of a two layer coating, the lower layer (figure 8 layer 19-nearer the substrate) is comprised of 24-99 volume percent matrix alloy and 0-25% abrasive and the upper layer (figure 8 layer 18) is comprised of 0-39 volume% matrix alloy and 40-99% abrasive (column 4 lines 14-22). Breton discloses the coating matrix is an alloy matrix such as a cobalt-based alloy and the abrasive is a carbide such as chromium carbide (column 6 lines 54-62).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 3,743,556 to Breton et al.

Regarding claim 10, Breton discloses all of the limitations of claim 6 and discloses two layers of coating but does not disclose the thickness of each layer. However Breton does show a figure of the layers indicating equal thickness of the layers (figure 8). Because Breton does not specifically disclose a thickness, it would have been obvious to a person having ordinary skill in the art at the time of the invention to make each layer the same thickness.

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Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 3,743,556 to Breton et al. as applied to claim 6 above in view of U.S. Patent 4,82,2248 to Wertz et al.

Regarding claim 8, Breton discloses all of the limitations of claim 6. Although Breton does not expressly disclose the coating on both mating parts of a seal system, Wertz discloses wear resistant surfaces on a turbine blade seal as well as on the abutment faces including the notched edges (mating surfaces) (abstract). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to apply the coating of Breton to both mating surfaces of a seal as disclosed by Wertz.

Claims 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 3,743,556 to Breton et al. as applied to claim 6 above in view of U.S. Patent 4,884,820 to Jackson et al.

Regarding claims 9 and 14, Breton discloses all of the limitations of claim 6 but does not disclose a coating thickness for a turbine seal. Jackson discloses a turbine seal thickness as 0.5-100mils (12.7-2540 μ m) overlapping the claimed ranges of up to 400 μ m and 50-250 μ m. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have selected the overlapping portion of the ranges disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, In re Malagari, 182 USPQ 549.

Response to Arguments

The examiner acknowledges applicant's amendments to claims 9, 11 and 12, cancellation of claims 1-5 and addition of new claim 14. The examiner withdraws previous claim objections and 112 rejections.

Applicant's arguments with respect to claims 6-14 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Ivey whose telephone number is (571) 272-8432. The examiner can normally be reached on 7:00- 4:30 M-Th and 7:00-3:30 alt. Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



EDI



JENNIFER MCNEIL
SUPERVISORY PATENT EXAMINER

2/13/07